DOCUMENT RESUME

ED 421 157 IR 018 877

AUTHOR Laffey, James M.; Musser, Dale; Tupper, Thomas
TITLE An Internet-Based Journal for Professional Development.
PUB DATE 1998-00-00
NOTE 8p.; In: "SITE 98: Society for Information Technology & Teacher Education International Conference (9th, Washington, DC, March 10-14, 1998). Proceedings"; see IR 018 794.
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Mediated Communication; *Computer Uses in Education; Curriculum Development; *Faculty Development; Field Experience Programs; Higher Education; Information Systems; *Internet; Preservice Teacher Education; Program Development; *Student Journals
IDENTIFIERS *Reflective Thinking; *Technology Integration; Technology Plans; University of Missouri Columbia

ABSTRACT

Believing in the importance of learning from field experience and valuing the development of reflective practitioners has led the College of Education, University of Missouri-Columbia to reform its undergraduate teacher education program. Concurrent with the curriculum redesign was an effort to use technology in the service of the new program implementation and in the development of technology using teachers. A significant component of the technology infrastructure was the design of an interactive shared journal system (ISJS) to facilitate the reflective learning process from field experience. In addition to supporting the learning process, ISJS afforded students and faculty the opportunity to communicate with multi-media representations of experience, communicate both asynchronously and synchronously, and have access to a community knowledge-base of experiences. ISJS enables three key processes (access to Internet-based resources, capturing experiences, and sharing experiences) in the context of a community made up of four roles (administrators, mentors, students, and guests). The usage data and student reports suggest, that, while there have been many barriers to usage, ISJS is supporting the reflective learning process, and many faculty and students are increasing their usage and capacity with ISJS. (AEF)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 421 157

An Internet-Based Journal for Professional Development

By:

James M. Laffey
Dale Musser
Thomas Tupper

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

G.H. Marks

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

IR018877

An Internet-Based Journal for Professional Development

James M. Laffey
University of Missouri Columbia

Dale Musser
University of Missouri Columbia

Thomas Tupper
University of Missouri Columbia

Donald Schon (Schon, 1983) in his seminal book on professionals as reflective practitioners described professional practice as a reflective conversation with an uncertain situation, taking stances, experimenting, and learning from the back-talk of the situation. Beginners in a field need opportunities to practice this reflective conversation and to make sense of the back-talk. Professional preparation programs address this need by having novices learn from field experience or through exposure to various representations of realistic experience, such as simulations, problem-based learning, or cases. The key to learning, however, is not in the exposure, but in the "reflective conversation" and the meaning that the student draws from the experience.

Introduction

Believing in the importance of learning from field experience and valuing the development of reflective practitioners has led the College of Education (COE), University of Missouri-Columbia to reform its undergraduate teacher education program. A fundamental learning process of the new program is (1) for students to experience teaching through observation or practice in schools and (2) to articulate the meaning they derive from the experience (a first level of reflection), (3) for faculty and experienced teachers to provide feedback and counsel so as to shape and enhance the "meanings" (a second level of reflection), and (4) for the body of experiences and "meanings" to grow and evolve through the undergraduate program and continue as professional development in the early years of teaching (a possible third level of reflection). A goal of the reformed teacher education program was to implement this learning process across the entire curriculum of teacher preparation and not just as a culminating student teaching experience or as a few aiding or observation opportunities. This goal required new forms of support for teaching and learning.

Concurrent with the curriculum redesign was an effort to use technology in the service of the new program implementation and in the development of technology using teachers. A technology infrastructure (Laffey, Musser, & Wedman, 1998) was designed and implemented that includes an emphasis on developing competency with technology for students, powerbook computers for all faculty and students, and substantial enhancements to network services. A significant component of the technology infrastructure was the design of an interactive shared journal system (ISJS) to facilitate the reflective learning process from field experience (Laffey & Musser, 1996). In addition to supporting the learning process enumerated above ISJS afforded students and faculty the opportunity to communicate with multi-media representations of experience, communicate both asynchronously and synchronously (via chat), and have access to a community knowledge-base of experiences from anywhere they could establish an internet connection.

Interactive Shared Journal System (ISJS)

ISJS was designed, developed, and implemented to support the representation and sharing services of the new reflective learning process from field experience. ISJS is implemented on a Macintosh client and Silicon Graphics Indy servers. The clients and servers communicate over the internet using TCP/IP connections. Anyone who has access to the internet via a direct connection or a SLIP or PPP connection is able to participate; thus students can connect from any home or school location in Missouri and beyond. In addition, the software supports the creation and editing of journal entries off-line for later upload when a connection is available. A custom server was created for connecting and maintaining a login to the journal system. The server provides communication between the client and an Oracle database. ISJS is a flexible system for the development and support of learning communities, but in the context of the undergraduate teacher development program it can best be understood as enabling three key processes: access to Internet-based resources, capturing experiences, and sharing experiences. These processes are undertaken in the context of a community made up of four roles:

- administrators, who are responsible for the system;
- mentors, who are responsible for instruction and modeling;
- students, who are responsible for articulation of experiences; and
- guests, who have limited access to public information

ISJS includes facility for:

- creating multi-media journal entries that can link to other entries or web sites,
- appending notes and comments to a journal entry,
- determining access and privacy levels,
- a flexible teaming structure
- faculty-created tasks (assignments) that can be distributed into student journals and then monitored for progress,
- user profiles to support access and sharing,
- system-based email, and
- real-time chat.

Logging into ISJS requires an id and password to connect to the intranet of information and communication services. Figure 1 shows the menu of tools available within ISJS. Moving from right to left in the figure users have access to a set of internet-based communications tools: e-mail, a browser, chat, and a news group.

The My Journal button opens a list of journal entries. There are four types of stationery for journal entries. The first is a personal entry that is used to represent an experience or reflection. The second is an append. An append is personal journal entry that is attached to another person's journal entry. For example, a mentor or other user might be reading a journal entry from a student. The reader can click the append button that allows for a new entry to be created and attaches it to the open entry. A third type of entry is a source task. Mentors create journal entries and use a toggle switch to turn the entry into a source task. Source tasks are assignments and can be distributed to students and then monitored for progress. The fourth type of entry is a task, which is what the student receives from the mentor. The sections of the task created by the mentor cannot be modified by the student. The student can, however, insert his or her response to the assignment and indicate level of progress. When entries are created or updated the author can set access privileges to be private, public or by group membership. Figure 2 shows an example list of the public documents for one user. Documents can also be arranged in folders created to represent various groupings of members for access and sharing.

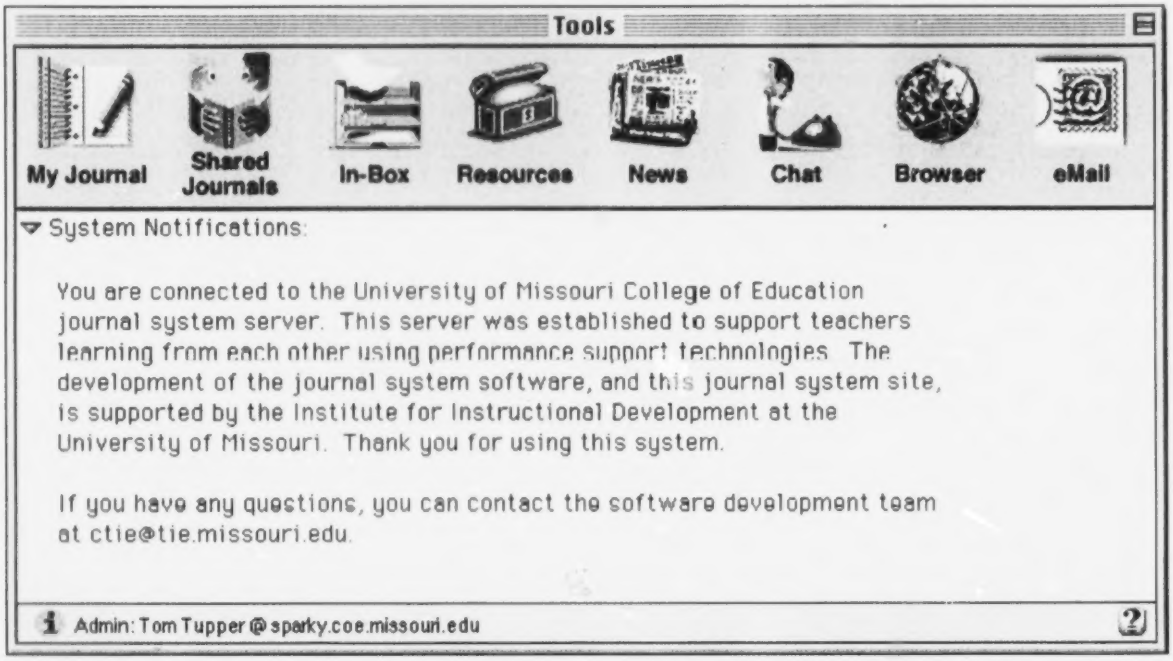
Tools
My Journal
Shared Journals
In-Box
Resources
News
Chat
Browser
eMail
System Notifications:
You are connected to the University of Missouri College of Education journal system server. This server was established to support teachers learning from each other using performance support technologies. The development of the journal system software, and this journal system site, is supported by the Institute for Instructional Development at the University of Missouri. Thank you for using this system.
If you have any questions, you can contact the software development team at ctie@tie.missouri.edu.
Admin: Tom Tupper @ sparky.coe.missouri.edu

Figure 1. Tools window provides access to shared services.

BEST COPY AVAILABLE

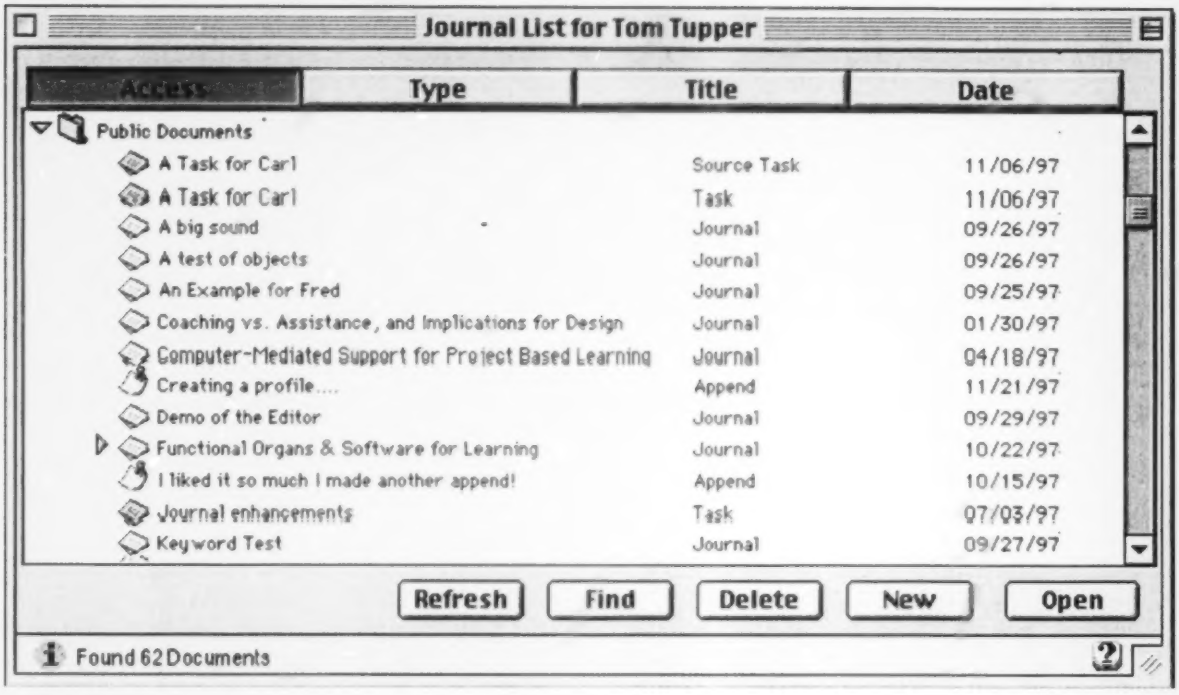

Figure 2. List of entries in My Journal

A user can create a journal entry with the New button on the list window or directly from the File menu. A standard entry has several elements: a title, keywords, access privileges, an author, a body, and it may have appends. A source task has a distribution list, and a task has a progress status. A key design goal of ISJS was to enable mentors and students to express themselves with as much representation power as possible in order to facilitate articulation and communication. To this end we have created a journal entry as a set of media and link objects. Figure 3 shows a journal entry about a discussion of software design. This one entry includes text fields, a link to a web page, a link to another journal entry, a sound object, and an image.

In addition entries can include links to other journal entries and attached binary files (e.g., an Excel spreadsheet or video clip). A key design goal of ISJS has been to make the construction of a multi-media, multi-object journal document easy and straightforward, even for a fairly novice user. The media objects can be imported into an entry through cut and paste or, if they reside as a file, in computer storage. Objects can also be acquired on the fly by selecting an open web page or journal entry, or by using a media control panel for capturing sound through a microphone, a video still from a camera, or an image from a scanner. The object rich journal entry form can facilitate the student as they capture their experience and as they represent it. For example, a student asked to visit a fourth grade class and evaluate the reading level of a child could record the child reading a passage via the microphone and then comment on their diagnosis. Fellow students or the instructor could not only discuss the thoroughness of the diagnostic report, but by listening to the audio clip could also give feedback on accuracy, as well as leave appends that extend the diagnosis.

Lessons Learned during the Pilot Year

The first cohort of students (freshmen in 1996/97) received powerbooks at the end of the Fall semester. They began to use their powerbooks and the ISJS in the Winter semester. As one might expect the first semester of implementation proved to have many technical challenges both for the program and for individual users. Much progress, however, was made and the usage of ISJS during this period demonstrated some of the potential benefits and highlighted some of the key challenges still to be overcome. Table 1 illustrates that some faculty began to appropriate ISJS into their instruction and some faculty were reluctant. Faculty High was included to represent a faculty member who made a distinct effort to implement ISJS in an extensive way. Faculty Low was included to represent a faculty member who chose not to use ISJS in any substantive way. Faculty 1, 2 & 3 represent faculty randomly selected from among the total faculty to illustrate typical use. The numbers represent journal entries from January 1997 to November 1997. The table shows the total number of journal entries

BEST COPY AVAILABLE

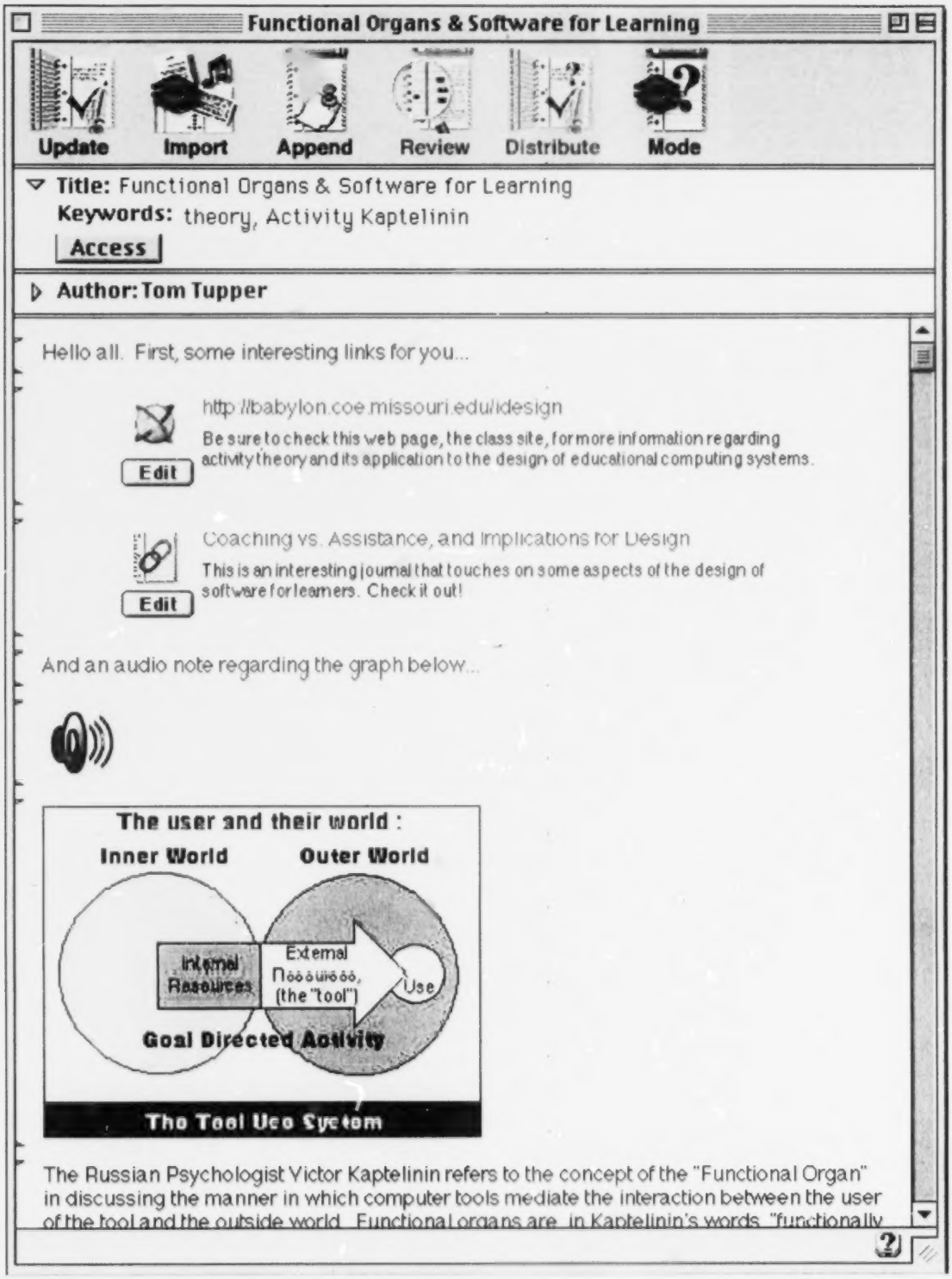
Functional Organs & Software for Learning
Update
Import
Append
Review
Distribute
Mode
Title: Functional Organs & Software for Learning
Keywords: theory, Activity Kaptelinin
Access
Author: Tom Tupper
Hello all. First, some interesting links for you...
http://babylon.coe.missouri.edu/idesign
Be sure to check this web page, the class site, for more information regarding activity theory and its application to the design of educational computing systems.
Edit
Coaching vs. Assistance, and Implications for Design
This is an interesting journal that touches on some aspects of the design of software for learners. Check it out!
Edit
And an audio note regarding the graph below...
The user and their world :
Inner World
Outer World
Internal Resources
External Resources, (the "tool")
Use
Goal Directed Activity
The Tool Use System
The Russian Psychologist Victor Kaptelinin refers to the concept of the "Functional Organ" in discussing the manner in which computer tools mediate the interaction between the user of the tool and the outside world. Functional organs are, in Kaptelinin's words, "functionally

Figure 3. Journal entry showing text, sound, images and links

BEST COPY AVAILABLE

and the number of those entries that were appends. Student entries were taken by randomly selecting 3 students from each teachers group (total number of students in group averaged 10 to 12 members) and then averaged their counts to represent a typical student user.

Table 1.
Distribution of ISJS usage by faculty and typical student.

	Faculty Entries	Faculty Appends	Student Entries	Student Appends
Faculty High	263	254	60	28 (47%)
Faculty 1	75	70	33	10 (30%)
Faculty 2	21	6	42	20 (47%)
Faculty 3	6	1	14	2 (14%)
Faculty Low	5	1	2	>1 (28%)

Table 1 shows that use varied substantially among faculty members and their students. Faculty High used the system extensively as a means for students to capture their field experiences and create a feedback loop from faculty to student. Having 254 appends out of a total of 263 shows that most of this faculty's use of ISJS was to respond to student entries. The typical student for this faculty member created 60 entries of which 47% were appends to other students' journals. A high rate of appends indicates that the faculty had students interacting amongst themselves rather than simply creating a teacher to student channel of communication. On the other extreme is Faculty Low for whom several of the entries probably represent those made during training or practice sessions. Correspondingly his students did not use ISJS. Several faculty who chose not to use ISJS in any substantial way did have their students write about their field experiences, only they used word processors to create entries, print them out, and hand them in.

Even faculty who used ISJS extensively only used it in its most simple form. Few journal entries contain media or link objects, few faculty have used tasks to create and distribute assignments, and few faculty have used chat sessions to enhance communication among students. It is easy to project that faculty high and faculty 1 and 2 will progress toward these more advanced features of the system, but it is hard to predict whether additional support or other incentives will move faculty low and 3 toward significant use of ISJS. We do expect though, that as the total curriculum and higher numbers of faculty use ISJS in ever more advanced ways, that all faculty will adopt ISJS as a part of their teaching repertoire. In fairness to the reluctant users, ISJS and the network infrastructure needed much improvement to make them more robust and reliable. Progress has been made in these areas, but some faculty remember very well a few failed attempts. It is also true that problems still persist and will always be part of a complex intranet environment and some faculty and students are more comfortable than others with a level of risk or in their ability to troubleshoot a problem.

Some faculty have begun to develop innovative teaching approaches based on use of ISJS. Several faculty have been developing the concept of a virtual school, wherein the teacher education students create virtual students and describe their experiences and reactions to events via journal entries. A science educator has begun to use ISJS to connect his students with students in high schools who are undertaking project based learning as part of an NSF grant. The high school students use ISJS to report about their projects. The college students review the journals of the high school students and take on various roles of observer, mentor or teaching assistant and use ISJS as a vehicle for communicating with the high school teacher and students.

Questionnaires were given to students in several of the teams at midterms and at the end of the year to learn about their perceptions of ISJS use. For many students there has been quite a learning curve to use the Powerbooks, ISJS, and other technology of their freshmen year. They have suffered failures and have overcome numerous technical or user error challenges. In particular there has been a persistent problem for many students in using ISJS via a dial-up mode. This problem has significantly limited the value and flexibility of ISJS. Most students make journal entries only when required. Some students do, however, cite making entries about significant life events and discussions from class sessions. Reference to using more features and using ISJS for more varied purposes increased form the beginning to end of semester. One student stated, "Honestly, at the beginning I did my entries for the grade and for the class points. However, as time passed I wanted to share my exciting experiences with other students. I also wanted to read about the other students' observations."

Conclusions

The usage data and student reports suggest that, while there have been many barriers to usage, ISJS is supporting the reflective learning process and many faculty and students are increasing their usage and capacity with ISJS. Clearly faculty and students will need more and better support, and ISJS and the network services will need to become more robust and reliable. As faculty and students begin to appropriate and innovate with ISJS its potential for facilitating the reflective learning process will be tested and developed. Faculty and students, however, have already begun to appreciate the communication processes facilitated by ISJS, and are coming to see the value of having the "reflective conversations" of learning to become a teacher articulated and shared as a community memory.

References

Laffey, J. & Musser, D. (1996). Designing a Journal System for Learning from Field Experience in Teacher Education. In B. Robin, J. D. Price, J. Willis, & D. Willis (Eds.), Technology and Teacher Education Annual 1996 (pp. 649-653). Charlottesville, VA: Association for the Advancement of Computing in Education.

Laffey, J., Musser, D. & Wedman, J. (in 1998). A Technology Infrastructure for Teacher Education. In Technology and Teacher Education Annual, 1998 [this publication] Charlottesville, VA: Association for the Advancement of Computing in Education.

Schon, Donald (1983). The reflective practitioner: How professionals think in action. New York : Basic Books.

James M. Laffey is Co-director of the Center for Technology Innovation in Education, College of Education, University of Missouri-Columbia, Columbia, MO 65211. Office Phone 573-884-8350, E-mail: jim@coe.missouri.edu.

Dale Musser is Co-director of the Center for Technology Innovation in Education, College of Education, University of Missouri-Columbia, Columbia, MO 65211. Office Phone 573-884-8350. E-mail: dale@coe.missouri.edu.

Thomas Tupper is a Research Scientist in the Center for Technology Innovation in Education, College of Education, University of Missouri-Columbia, Columbia, MO 65211. Office Phone 573-884-8350. E-mail: tom@coe.missouri.edu.